

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* MICHAEL D. ZOECKLER

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Appeal 2007-0008  
Application 09/818,023  
Technology Center 3700

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Decided: May 30, 2007<sup>1</sup>

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Before MURRIEL E. CRAWFORD, JENNIFER D. BAHR, and  
LINDA E. HORNER, *Administrative Patent Judges*.

BAHR, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Michael D. Zoeckler (Appellant) originally appealed under 35 U.S.C. § 134 from the Examiner's decision rejecting claims 1-15 and 33-37. In an

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<sup>1</sup> Appellant's counsel presented oral argument in this appeal on May 15, 2007.

Amendment filed November 16, 2006, subsequent to the filing of the Appeal Brief, Appellant cancelled claims 33-37. The Examiner entered this Amendment on November 30, 2006. Consequently, this appeal involves only claims 1-15. We have jurisdiction over this appeal under 35 U.S.C. § 6 (2002).

Appellant's claimed invention is directed to a method of making reinforced paperboard cartons. In particular, Appellant forms multi-width fold lines where a fold line transitions across the edge of a reinforcing ribbon (Specification 10). In cases where fold lines extend transversely across reinforcing ribbons, and thus transition from the thinner or lower caliper base sheet to the thicker or higher caliper reinforced regions, the fold lines are formed in such a way that they do not cause cracking or otherwise interfere with the folding of the carton, in accordance with Appellant's method (Specification 19). Claim 1 is illustrative of the claimed invention and reads as follows:

1. A method of making reinforced paperboard cartons comprising the steps of:

- (a) advancing a web of paperboard along a path, the web of paperboard having a width;

- (b) progressively applying at least one ribbon of reinforcing material to the advancing web of paperboard to form a reinforced region for the carton, the ribbon having a width less than the width of the web of paperboard and an edge;

- (c) scoring fold lines in the web of paperboard, at least one of the fold lines extending transversely to the reinforcing<sup>[2]</sup> region and crossing the edge of the ribbon of reinforcing

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<sup>2</sup> For consistency, "reinforcing region" should be "reinforced region."

material to define a fold line having a first section within the reinforced region and a second section outside the reinforced region, the first section of the fold line being wider than the second section of the fold line; and

(d) forming a transition zone between the first and second sections of the fold line.

The Examiner relies upon the following as evidence of unpatentability:

Campbell	US 1,600,396	Sep. 21, 1926
Haddock	US 3,735,674	May 29, 1973
Seufert (Seufert '206)	US 4,064,206	Dec. 20, 1977
Seufert (Seufert '916)	US 4,733,916	Mar. 29, 1988

This panel additionally relies on the admission in Appellant's Specification that it was known by those of skill in the art that "fold lines in thinner material must be narrower than fold lines in thicker material" (Specification 36:24-26) as additional evidence of unpatentability.

Appellant seeks review of the Examiner's rejections under 35 U.S.C. § 103(a) of claims 1-5, 7, and 11 as unpatentable over Campbell in view of Seufert '916, claim 6 as unpatentable over Campbell in view of Seufert '916 and Seufert '206, and claims 8-10 and 12-15 as unpatentable over Campbell in view of Seufert '916 and Haddock.

The Examiner provides reasoning in support of the rejections in the Answer (mailed December 1, 2003). Appellant presents opposing arguments in the Appeal Brief (filed September 16, 2003). A Reply Brief filed March 16, 2004 was denied entry (*see* Decision on Petition mailed August 10, 2006 and Office Communication mailed September 13, 2006) and will not be considered in our decision.

### THE ISSUE

Appellant has not argued the rejections of claim 6 as unpatentable over Campbell in view of Seufert '916 and Seufert '206 and claims 8-10 and 12-15 as unpatentable over Campbell in view of Seufert '916 and Haddock separately from the rejection of claims 1-5, 7, and 11 as unpatentable over Campbell in view of Seufert '916. These rejections therefore stand or fall with the rejection of claims 1-5, 7, and 11 as unpatentable over Campbell in view of Seufert '916 (*see In re Nielson*, 816 F.2d 1567, 1572, 2 USPQ2d 1525, 1528 (Fed. Cir. 1987)).

In light of the above, the only issue presented to us for consideration is whether the Examiner erred in concluding that the subject matter of claims 1-5, 7, and 11 is unpatentable over the combination of Campbell and Seufert '916.

### FINDINGS OF FACT

1. Campbell discloses a method of reinforcing fiber board or corrugated board for use in making shipping cases, cartons, or other folded multiple-ply blanks (Campbell 1:1-5) by inserting lines of fabric or other tape, or the like, between the plies of the web of the board from which the blank is to be cut and scored. The lines of reinforcing material coincide with the subsequent fold lines of the completed carton. (Campbell 1:45-51.) As illustrated in Fig. 3, the plies of paper and strips of tape are fed in web form from paper rolls 1-3 and tape rolls 5, the paper webs are coated with silicate in bath 4, the tapes are covered with a slow drying cement by passing them through a tank 5<sup>a</sup> and squeeze rolls 5<sup>b</sup>, and the plies of paper and tapes are then fed

together to squeeze rolls 6 and then to scoring and cutting rolls not shown (Campbell 2:1-14).

2. An essential feature of Campbell's process is that the scoring is done while the bond between the tapes and the paper is *not* dry, but is free to slip when the scoring is done, thereby yielding a blank which is truly reinforced by a tape that is firmly bonded on both sides to the paper thereof (Campbell 1:81-91). This is done to address the problem that a dry bond between the plies is broken when the score lines are formed, because of the distortion incident to scoring, separating the paper and the tape and diminishing the reinforcing effect (Campbell 1:67-80).
3. As illustrated in Figs. 1 and 4, Campbell forms score lines, shown by lines 9, 9, "necessary to permit erecting of the carton without breaking the material thereof" (i.e., fold lines), some of the score lines extending transversely of the reinforcing tapes, shown by dotted lines 8 (Campbell 2:32-34 and 2:45-48).
4. Campbell does not disclose forming the score lines or fold lines so that a first section of the fold line within the reinforced region is wider than a second section of the fold line outside the reinforced region and forming a transition zone between the first and second sections of the fold line, as required in independent claims 1 and 11.
5. Seufert '916 is directed to folding boxes having two overlapping blanks of differing materials, such as a cardboard material and a transparent stiff plastic foil (Seufert '916, col. 1, ll. 7-10), with bending lines extending across the overlap (Seufert '916, col. 1, ll. 32-36). The objective of Seufert '916 is to address the troublesome

material displacement and material stretching that can occur during folding because of the double material thickness at the points of overlap (Seufert '916, col. 1, ll. 37-40). Seufert addresses this problem by forming thinned-down areas 17 in the foil blank prior to gluing the foil blank to the cardboard blank (Seufert, col. 2, ll. 57-60). The thinned-down areas 17 in the foil are formed simultaneously with the placement of bend lines 13 in the foil (Seufert '916, col. 8, ll. 25-29). The thinned-down areas 17 and bend lines 13 can be formed with a high frequency process or with a hot stamping process, both of which processes are characterized by Seufert '916 as being so well known that no further explanation thereof is necessary (Seufert '916, col. 8, ll. 29-41).

6. A transition zone between the thin bend line 13 and the wider thinned-down area 17 having a gradually increasing width from the thin bend line 13 to the wider thinned-down area 17 is illustrated in Figs. 2, 3, and 4 of Seufert '916. The edge of the extra foil ply (the overlap area) is located within the transition zone (Seufert '916, Figs. 2, 3, and 4)
7. Seufert '206 discloses use of a rule-shaped tool 20 in the type of high frequency process alluded to by Seufert '916 (Finding of Fact 5) for forming fold lines in carton material. Seufert '206 is the US equivalent of the German application ("DE-PS No. 25 41 324") referred to by Seufert '916 in disclosing a suitable high frequency process for forming the thinned-down areas 17 and bend lines 13 of the foil (Seufert '916, col. 8, l. 38). Thus, the process and tooling disclosed by Seufert '206 are capable of forming the configuration of the thinned-down areas 17 and bend lines 13 disclosed by Seufert

‘916 and illustrated in Figs. 2, 3, and 4 of Seufert ‘916. Seufert ‘206 illustrates an embodiment wherein the rule-shaped tool 20 is carried in a holding plate 19 connected to a work cylinder 11 (Seufert, col. 5, ll. 28-30 and 43-45).

8. Haddock evidences that a slot or channel 16 in the make ready 14 (i.e., counter plate) on a platen 10 used in conjunction with a rule 20 for forming creases for bending in carton blanks was known in the art at the time of Appellant’s invention (Haddock, col. 3, ll. 13-18, Fig. 1).
9. It was known by those of skill in the art at the time of Appellant’s invention that fold lines in thinner material must be narrower than fold lines in thicker material (Specification 36:24-26).

### ANALYSIS

In rejecting claims 1-5, 7, and 11 as unpatentable over Campbell in view of Seufert ‘916, the Examiner contends it would have been obvious “to include the teachings of Seufert [‘916] in the invention of Campbell in order to compensate stresses in the laminate materials when folded into the final product and thereby maintaining the bond between the laminates” (Answer 4), but does not specify how the invention of Campbell would be modified by including the teachings of Seufert ‘916 therein. We conclude that combination of Campbell and Seufert ‘916, without more, would not result in the method of Appellant’s independent claims 1 and 11. Campbell’s reinforcing method involves forming fold lines extending transversely of lines of reinforcement, which lines of reinforcement include an extra layer of material relative to the other regions of the blank (Findings of Fact 1 and 3).

Seufert '916 addresses the problems of extending a fold or bend line across overlap regions (i.e., regions of different thickness) by, prior to gluing the foil blank to the cardboard blank, forming a thinned-down area in the extra ply in the region where the bend line crosses the overlap region, the thinned-down area being wider than the bend line (Findings of Fact 5 and 6).

Therefore, "[including] the teachings of Seufert ['916] in the invention of Campbell" would appear to involve inserting between the plies of Campbell's board lines of reinforcing tape having thinned-down areas in the regions where bend or fold lines will cross the lines of reinforcement.

Missing from the combination of Campbell and Seufert '916 is a teaching of scoring the fold lines across the reinforced region to define a fold line having a first section within the reinforced region and a second section outside the reinforced region, the first section of the fold line being wider than the second section of the fold line, as recited in claim 1, or impressing the paperboard carton blank with a multi-point rule having a narrower first section for scoring the portion of the fold line outside the reinforced region and a wider second section for scoring the portion of the fold line within the reinforced region, as recited in claim 11.

For the reasons explained above, we conclude that the Examiner erred in concluding that the subject matter of claims 1 and 11 is unpatentable over the combination of Campbell and Seufert '916. The rejection of independent claims 1 and 11 and claims 2-5 and 7 depending from claim 1 is reversed. The Examiner's application of Seufert '206 and Haddock in rejecting the remaining depending claims does not make up for the deficiency in the combination of Campbell and Seufert. Accordingly, the rejections of claim 6 as unpatentable over Campbell in view of Seufert '916



and Seufert '206 and claims 8-10 and 12-15 as unpatentable over Campbell in view of Seufert '916 and Haddock are also reversed.

### NEW GROUNDS OF REJECTION

Pursuant to our authority under 37 C.F.R. § 41.50(b), we enter the following new grounds of rejection.

Claims 1-4 are rejected under 35 U.S.C. § 103(a) as unpatentable over Campbell in view of Appellant's admission (Specification 36:24-26) and Seufert '916.

"A person of ordinary skill is also a person of ordinary creativity, not an automaton." *KSR Int'l. Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1742, 82 USPQ2d 1385, 1397 (2007).

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

*Id.* at 1740, 82 USPQ2d at 1396. We must ask whether the improvement is more than the predictable use of prior art elements according to their established functions. *Id.*

Campbell discloses the method of claim 1 with the exception of the fold line extending transversely to the reinforced region having a first section within the reinforced region and a second section outside the

reinforced region, the first section of the fold line being wider than the second section of the fold line, and a transition zone formed between the first and second sections of the fold line (Finding of Fact 1). As admitted by Appellant, however, it was known by those of skill in the art at the time of Appellant's invention that fold lines in thinner material must be narrower than fold lines in thicker material (Specification 36:24-26). Thus, a person of ordinary skill in the art at the time of Appellant's invention would have appreciated that the score lines extending across the lines of reinforcement of Campbell's carton blank should be formed so as to be wider in the reinforced area (the thicker material) and narrower in the areas that are not reinforced (the thinner material). Moreover, Seufert '916 evidences that techniques were well known in the art at the time of Appellant's invention for forming fold lines or scores in plastic carton blank material that are wider in a first section and narrower in a second section, with a transition zone between the first and second sections that gradually widens from the narrower width to the wider width (Findings of Fact 5-6). Thus, one of ordinary skill in the art would have been able to implement one of the well known and predictable techniques mentioned by Seufert '916 to score a fold line in the reinforced carton blank material of Campbell having a first section in the reinforced region that is wider than a second section in the region that is not reinforced, with a transition zone between the first and second sections that gradually widens from the narrower width to the wider width, and would have been prompted to do so while the bond between the tapes and the paper is *not* dry to ensure firm bonding of the tape on both sides to the paper (Finding of Fact 2), in order to form the score lines so as to be wider in the reinforced area (the thicker material) and narrower in the

area that is not reinforced (the thinner material). The subject matter of claims 1-4 therefore would have been obvious to one of ordinary skill in the art at the time of Appellant's invention.

Claims 5-7 and 11 are rejected under 35 U.S.C. § 103(a) as unpatentable over Campbell in view of Appellant's admission (Specification 36:24-26), Seufert '916, and Seufert '206.

As evidenced by Seufert '206, the US equivalent of the German application ("DE-PS No. 25 41 324") mentioned by Seufert '916 (Finding of Fact 7), one of the well known techniques identified by Seufert '916 available for forming a bend line having a wider section, a narrower section, and a transition zone of gradually increasing width between the wider section and narrower section involves the use of a rule-shaped tool 20 (a scoring rule). To utilize a multi-point rule having a narrower section to form the narrower section of the bend line and a wider section to form the wider section of the bend line would require merely a predictable variation of the simple single point rule-shaped tool 20 taught by Seufert '206 well within the skill of the art and thus would have been obvious. Campbell nominally refers to scoring rolls (Finding of Fact 1) and Seufert '206 illustrates an embodiment wherein the rule-shaped tool 20 is carried in a holding plate connected to a work cylinder (Finding of Fact 7). A scoring rule formed as part of a platen or press-type device, as embodied in Seufert '206, and a scoring rule formed as part of a rotary scoring roll, as embodied in Campbell, are both predictable variations of scoring devices and the use of either to form the score lines in Campbell would have been obvious.

Claims 8-10 and 12-15 are rejected under 35 U.S.C. § 103(a) as unpatentable over Campbell in view of Appellant's admission (Specification 36:24-26), Seufert '916, Seufert '206, and Haddock.

As evidenced by Haddock, the use of counter plates having slots or channels in cooperation with a rule for forming creases (fold lines) in carton blank material was known in the art at the time of Appellant's invention (Finding of Fact 8). A person of ordinary skill in the art would have appreciated that a counter plate formed with an appropriately shaped slot or channel for use in cooperation with the scoring rule would be beneficial in the scoring device of Campbell to form a fold line having a first wider section, a second narrower section, and a transition zone between the first and second sections having a width gradually increasing from the narrower width to the wider width. Thus, a counter plate having a groove shaped as recited in claims 8-10 and 12-15 would have been obvious for use in Campbell's scoring device.

#### SUMMARY

The decision of the Examiner to reject claims 1-15 under 35 U.S.C. § 103(a) is reversed. New rejections of claims 1-15 under 35 U.S.C. § 103(a) are entered pursuant to 37 C.F.R. § 41.50(b).

This decision contains new grounds of rejection pursuant to 37 C.F.R. § 41.50(b). 37 C.F.R. § 41.50(b) provides "[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review."

37 C.F.R. § 41.50(b) also provides that Appellant, **WITHIN TWO MONTHS FROM THE DATE OF THE DECISION**, must exercise one of

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the following two options with respect to the new grounds of rejection to avoid termination of the appeal as to the rejected claims:

(1) Reopen prosecution. Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner. . . .

(2) Request rehearing. Request that the proceeding be reheard under § 41.52 by the Board upon the same record. . . .

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2006).

REVERSED; 37 C.F.R. § 41.50(b)

vsh

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